No. 635,474. Patented Oct. 24, 1899.

A. GRAP.

KEG REFRIGERATOR.

(Application filed Jan. 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig: 1.

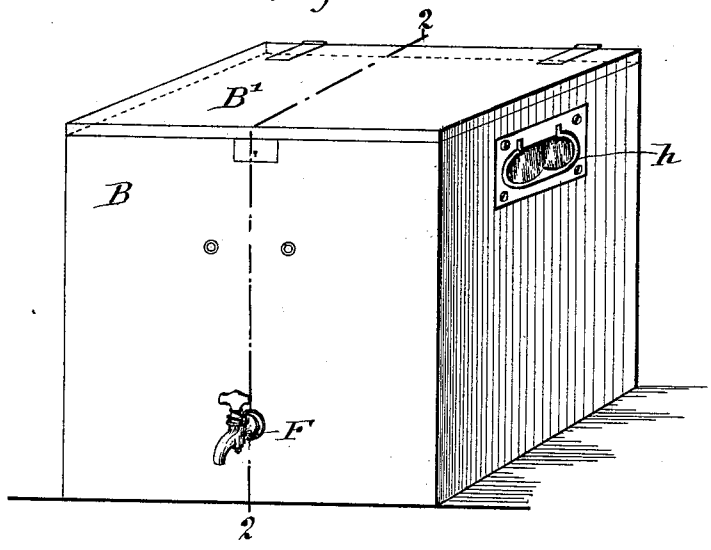
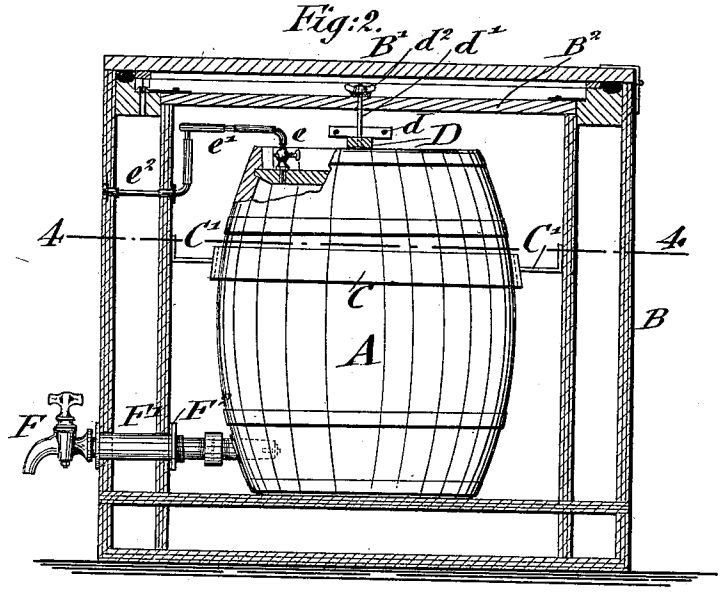


Fig: 2.

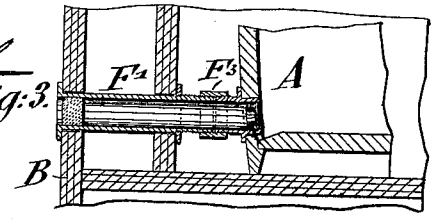


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Fig: 3.



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Fig: 4.

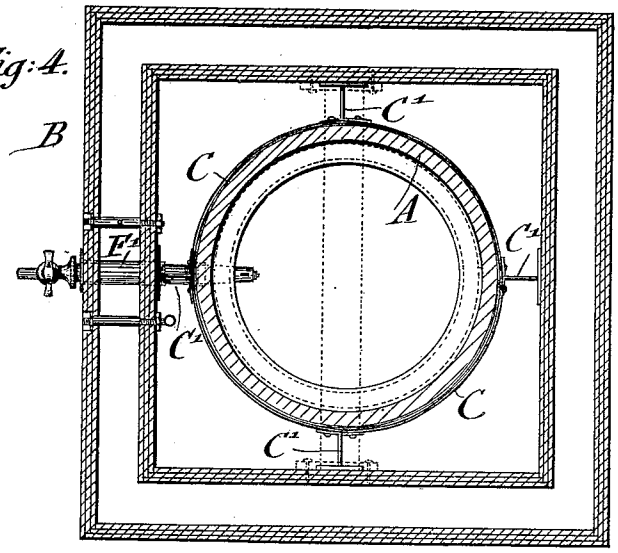


Fig: 5.

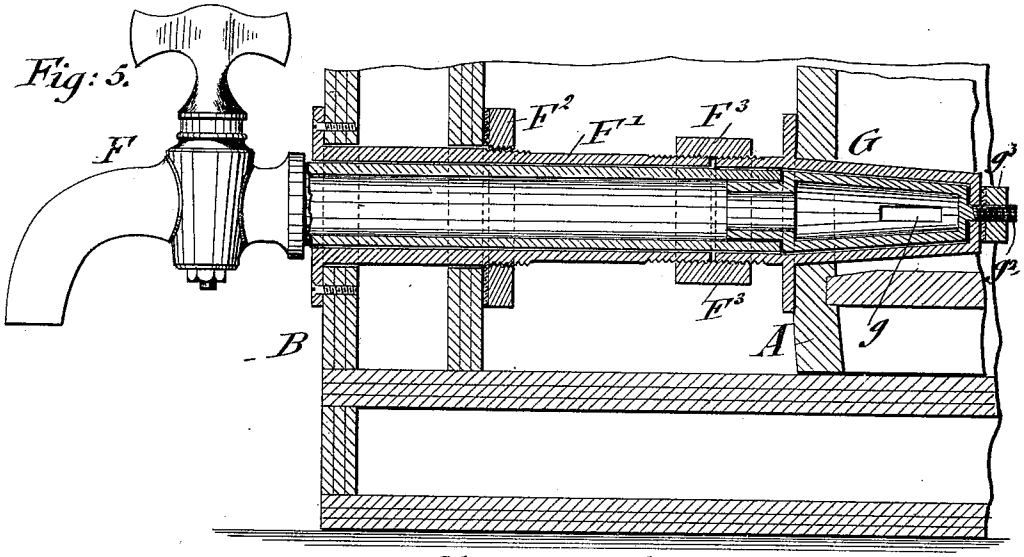
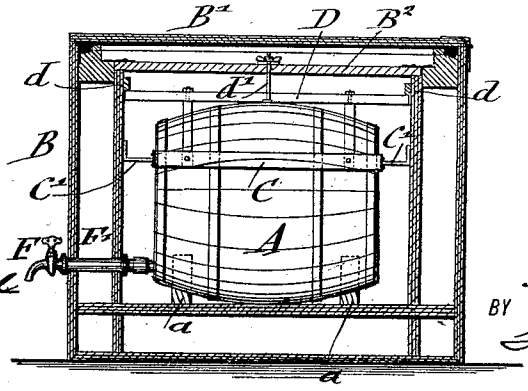


Fig: 6.



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UNITED STATES PATENT OFFICE.

AUGUST GRAP, OF HOBOKEN, NEW JERSEY.

KEG-REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 635,474, dated October 24, 1899.

Application filed January 18, 1899. Serial No. 702,508. (No model.)

To all whom it may concern:

Be it known that I, AUGUST GRAP, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Keg-Refrigerators, of which the following is a specification.

The object of this invention is to draw off lager-beer and other fermented liquors from small kegs, so as to dispense with the bottling of these liquors and permit at the same time the drawing off small quantities for domestic use.

Various efforts have been made for dispensing beer and other fermented liquors from vessels containing one or two gallons, so as to do away with bottling the liquors. Most of these efforts have failed in practice, mainly for the reason that the workingman and others who form the great mass of the people have no refrigerators adapted for cooling the vessels of that size. It is therefore necessary to the success of selling fermented liquors in small kegs that they be furnished together with a refrigerator, so as to be independent of the ordinary family refrigerator.

In carrying out the object of my invention the beer and other fermented liquids are drawn off into one or two gallon kegs in the brewery, the stamp placed over the faucet-hole of the keg in the usual manner, and the keg then directly transferred into a refrigerating-box, which is carefully packed with ice and the box shipped to the consumer, the beer until ready for use being maintained at practically the temperature at which it leaves the brewery, the keg being tapped from the outside of the refrigerator and the beer drawn off as called for by the requirements of the family.

For this purpose my invention consists of a keg-refrigerator which comprises a keg containing the fermented liquor, a refrigerating-box, and means for securely locking the keg in position in the box, so as to prevent any shifting of the same and permit convenient tapping whenever desired.

The invention consists, secondly, of a keg for fermented liquor, a refrigerating-box for the same, means for locking the keg in position in the refrigerator, and a faucet for drawing off the liquid and inserted through the refrigerator into the faucet-hole of the keg.

The invention consists, further, of certain accessories to my improved keg-refrigerator by which a pressure of air or carbonic-acid gas can be placed on the liquid in the keg, either from the outside or by opening the lid of the refrigerator; and the invention consists, lastly, of certain details of construction and combinations of parts, which will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved keg-refrigerator shown as tapped for use. Fig. 2 is a vertical transverse section on line 2 2, Fig. 1. Fig. 3 shows a modified form of tapping arrangement. Fig. 4 is a horizontal section on line 4 4, Fig. 2. Fig. 5 is a vertical longitudinal section of a preferred form of tapping device drawn on a larger scale; and Fig. 6 shows a refrigerator in which the keg is supported in horizontal position, while in the remaining figures the keg is supported in vertical position in the refrigerator.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a small keg, which is made in the usual manner, only of smaller size than the ordinary beer-kegs, so as to contain, say, one or two gallons of liquid. Ordinarily beer and other fermented liquors are sent out in so-called "half-barrel" or "quarter" kegs, containing sixteen or eight gallons, respectively; but occasionally so-called "sixth and "eighth" kegs are sent out for special purposes, which contain five and one-third and four gallons, respectively. These kegs are too large for the purpose of the present invention and it is therefore proposed to use kegs of smaller size, containing one or two gallons. These kegs are filled with liquor by any approved racking-off apparatus and stamp applied to the faucet-hole in the usual manner, so that the same is canceled when the keg is tapped by the consumer. After the keg A is filled it is placed in the refrigerator B, which is of a size proportioned thereto, one size of refrigerator being adapted for both one and two gallon kegs. The refrigerator B is constructed with double

walls in the usual manner, which are filled in with charcoal, mineral wool, or other suitable non-conductor, or the double walls are not packed at all, but filled with air or carbonic-acid gas under pressure, in which case the air or carbonic-acid gas acts a non-conductor. The refrigerator-body B is provided with a hinged lid B′, which is located in any suitable manner to the body A. The side walls are provided with handles *h* for conveniently carrying the refrigerator and its contents. An interior lid B^2 is set in a rabbet-groove of the interior portion of the refrigerator, as shown in Fig. 2. This lid is secured in position by means of a screw-bolt applied to a locking-bar D, by means of which the keg is firmly held in position.

The keg may be placed in the refrigerator in vertical position, as shown in Fig. 2, or in horizontal position, as shown in Fig. 6. In the latter case it rests on beveled bottom cleats *a*. In either case, however, the keg is retained in position by a sheet-metal strap or hoop C, which is provided, preferably at four or more points, with outwardly-extending T pieces or lugs C′, that bear on the inner walls of the refrigerator when the hoop C is placed in position on the keg. When it is to be applied to a keg in vertical position, the hoop is made of circular shape, while when it is to be applied to a keg in horizontal position the strap C is made of a shape corresponding with the keg and heads, as shown in Fig. 6. The strap C prevents the shifting of the keg in the refrigerator and holds it firmly in position, so that its faucet-hole is always in line with the guide-sleeve F for the faucet, that is permanently attached to the front wall of the refrigerator-box B. After the keg is in proper position, with the strap C placed over the same, the locking-strap D is engaged under the stationary cleats *d* on the inner walls of the refrigerator, and the screw-bolt *d′*, that is attached to the locking-bar, passed through the opening in the inner lid B^2 and secured in position by the thumb-nut d^2, as shown in Fig. 6. Before closing the inner lid B^2, however, the space around the keg A is packed with broken ice, so that the same completely covers the keg. The inner lid is then closed and the outer lid B′ closed and locked, and the keg, with the refrigerator, is ready for shipment to the consumer. If it be not desired that the customer have access to the keg, (in which case no key would be delivered to him,) then a vent for compressed air or carbonic-acid gas is provided. For this purpose a vent-faucet *e* is arranged in the head of the keg, as shown in Fig. 2, which is connected by a tube *e′* with an air-pipe e^2, that passes through the walls of the refrigerator and which is provided at its outer end with a socket or tap, so as to permit the insertion of the coupling of the air-pipe connected with a foot-pump, so that the required quantity of air-pressure can be given to the keg with great facility. If carbonic-acid gas under pressure is to be supplied, then connection with the reservoir containing carbonic-acid gas is made in the same manner; but in most cases it is preferable to hand the key to the customer, who can then open the lid and establish the vent connection himself.

The wooden or metal faucet F is supplied with the keg to the customer and is inserted into the guide-sleeve F′, which is secured to the walls of the refrigerator, as shown in Fig. 5, by means of a screw-collar F^2. This stationary sleeve for the barrel of the faucet is connected with a bushing G in the keg by means of a screw-collar F^3, that is secured over the threaded ends of the guide-sleeve F′, and the threaded end of the bushing G placed in the barrel. The bushing G is provided with openings at its inner end and with an axially-turned spigot having openings *g* registering with the openings in the bushing. Said spigot is engaged by the barrel of the faucet when the same is inserted and turned so that the holes of the bushing and spigot register when the faucet is in its upright position, as shown in Figs. 2 and 5. The spigot is connected by a threaded shank and screw-nut g^2 g^3 with the bushing G. When the faucet is inserted and turned so that its cock is in vertical position, the keg is automatically tapped and the contents can be drawn off. When it is desired to use the ordinary wooden plug for closing the faucet-hole, the outer end of the guide-sleeve F′ has to be closed by a cork or some other stopper, which is drawn out when the faucet is inserted. The faucet is then driven into the guide-sleeve in the usual manner, so as to break the wooden plug in the faucet-hole in the well-known manner, the barrel of the faucet being tightly closed by the remaining portion of the plug. In either case, however, the connection of the keg with the guide-sleeve for the faucet has to be made so as to secure the reliable tapping of the keg.

My improved keg-refrigerator has the advantage that beer or other fermented liquors can be shipped directly to the customers without drawing them off into bottles, with all the objectionable features connected with bottling, that the liquid is kept cool from the time it leaves the brewery until it is drawn off by the customer at the original temperature, that the beer has the advantage of being drawn directly from the wood, which is preferred by most people, and that a supply to last a family for a few days is thereby within convenient reach, which is of importance, especially in hot weather. The keg is delivered, with the refrigerating-box and the ice in the same, to the consumers and returned after use. It enables the brewer to supply lager at a low and uniform temperature without the expenses and inconveniences connected with the bottling, and brings thereby the fermented liquid at a lower price and in a more palatable condition within the means of the great mass of the people.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of a portable refrigerator, a keg, means for rigidly locking the keg in said refrigerator, a stationary guide-sleeve passing through the refrigerator in line with the faucet-hole of the keg, a coupling between the guide-sleeve and the faucet-hole of the keg, and means inserted in the outer end of the sleeve for closing the same, substantially as set forth.

2. The combination of a portable refrigerator provided with registering openings, a keg placed in the refrigerator and having its faucet-hole in line with said openings, a guide-sleeve fixed in said openings and connected with said faucet-hole, locking devices for rigidly locking the keg in said refrigerator, so as to retain the faucet-hole in line with said openings, and means for permitting the tapping of the keg from the outside, whereby is formed a rigid transportable package requiring no disturbance of the parts by the consumer, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

AUGUST GRAP.

Witnesses:
PAUL GOEPEL,
M. H. WURTZEL.